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| 10/748,515 | 12/30/2003 | James C. P. Waithman | 1391-38601 | 7270 |
| 23505 | 7590 | 12/20/2004 | EXAMINER | |
| CONLEY ROSE, P.C. P. O. BOX 3267 HOUSTON, TX 77253-3267 | | | COLLINS, GIOVANNA M | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 3672 | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/748,515

Applicant(s)

WAITHMAN ET AL.

Examiner

Giovanna M. Collins

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3672

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 May 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character “46” has been used to designate both rotating sleeve and guide groove.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 53.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claim 8-20 been renumbered 9-21.

Applicant is advised that should claim 3 be found allowable, claim 11 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1,2,8,9,17,and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Hopper et al. '944.

Hopper discloses (Fig. 1) an electrically actuated fail-safe valve for controlling fluid flow in a deepwater drilling operation, comprising: a body (12) having a bore therethrough; a closure element (51) mounted in the bore and actuable between a closed position in which said bore is relatively obstructed and an open position in which said bore is relatively open, said closure

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element being biased (at 53) to one of said closed and open positions; a flow tube (20) slidably mounted in said bore, said flow tube being actuatable between a first position in which said flow tube does not interfere with the normal bias of said closure element and a second position in which said flow tube opposes the normal bias of said closure element so as to maintain said closure element in the other of said closed and open positions; an electrically powered drive mechanism (15) mounted in said body and engaging said flow tube (at 36) so as to advance said flow tube from said first position to said second position.

Referring to claim 2, Hopper discloses said closure element is biased into said closed position (col. 7, lines 14-15) and said drive mechanism (15) advances said flow tube such that said flow tube actuates said closure element to said open position.

Referring to claim 8, Hopper discloses an electrically actuatable retaining mechanism mounted in said body and actuatable between an engaged position in which said retaining mechanism engages said flow tube and prevents axial movement of said flow tube relative to said body and a disengaged position in which said retaining mechanism allows axial movement of said flow tube relative to said body (col. 4, lines 40-51).

Referring to claim 9, Hopper discloses a biasing means (47) urging said flow tube into said first position.

Referring to claims 17 and 21, Hopper discloses a method for controlling fluid flow in a deepwater drilling operation, comprising: a) providing a tool having a bore therethrough, the tool including a closure element (51) actuatable between a closed position in which the closure element closes said bore and an open position in which the closure element allows fluid flow through the bore, the closure element being biased normally closed (col. 7, lines 14-15), the tool further

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including a flow tube (20) slidably mounted in said bore, the flow tube being actuatable between a first position in which the flow tube does not prevent the closure element from being in its normally biased position and a second position in which the flow tube opposes the normal bias of the closure element so as to actuate the closure element to the open position and selectively actuating said flow tube so as to actuate the closure element to the open position using electric power (col. 3, lines 15-20).

2. Claims 1,2,8,9,17,and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Dietz et al. '388.

Dietz discloses (Fig. 3) an electrically actuated fail-safe valve for controlling fluid flow in a deepwater drilling operation, comprising: a body (40) having a bore therethrough; a closure element (61) mounted in the bore and acutable between a closed position in which said bore is relatively obstructed and an open position in which said bore is relatively open, said closure element being biased (col. 3, lines 14-18) to one of said closed and open positions; a flow tube (65) slidably mounted in said bore, said flow tube being actuatable between a first position in which said flow tube does not interfere with the normal bias of said closure element and a second position in which said flow tube opposes the normal bias of said closure element so as to maintain said closure element in the other of said closed and open positions; an electrically powered drive mechanism (76) mounted in said body and engaging said flow tube (at 67) so as to advance said flow tube from said first position to said second position.

Referring to claim 2, Dietz discloses said closure element is biased into said closed position (col. 3, lines 14-18) and said drive mechanism (76) advances said flow tube such that said flow tube actuates said closure element to said open position.

Referring to claim 8, Dietz discloses an electrically actuable retaining mechanism mounted in said body and actuable between an engaged position in which said retaining mechanism engages said flow tube and prevents axial movement of said flow tube relative to said body and a disengaged position in which said retaining mechanism allows axial movement of said flow tube relative to said body (col. 8, lines 5-23).

Referring to claim 9, Dietz discloses a biasing means (64) urging said flow tube into said first position.

Referring to claims 17 and 21, Dietz discloses a method for controlling fluid flow in a deepwater drilling operation, comprising: a) providing a tool having a bore therethrough, the tool including a closure element (61) actuable between a closed position in which the closure element closes said bore and an open position in which the closure element allows fluid flow through the bore, the closure element being biased normally closed (col. 3, lines 14-18), the tool further including a flow tube (65) slidably mounted in said bore, the flow tube being actuable between a first position in which the flow tube does not prevent the closure element from being in its normally biased position and a second position in which the flow tube opposes the normal bias of the closure element so as to actuate the closure element to the open position and selectively actuating said flow tube so as to actuate the closure element to the open position using electric power (col. 3, lines 51-56).

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3. Claims 17 is rejected under 35 U.S.C. 102(b) as being anticipated by Going '177.

Going discloses a method for controlling fluid flow in a deepwater drilling operation, comprising: a) providing a tool having a bore therethrough, the tool including a closure element (18) actuatable between a closed position in which the closure element closes said bore and an open position in which the closure element allows fluid flow through the bore, the closure element being biased normally closed (at 24), the tool further including a flow tube (22) slidably mounted in said bore, the flow tube being actuatable between a first position in which the flow tube does not prevent the closure element from being in its normally biased position and a second position in which the flow tube opposes the normal bias of the closure element so as to actuate the closure element to the open position and selectively actuating said flow tube so as to actuate the closure element to the open position (col. 2, lines 5-28).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Going '177 in view of Rawson et al. '843.

Going discloses a valve comprising: a body (10) having a bore therethrough; a closure element (18) mounted in the bore and actuable between a closed position in which said bore is relatively obstructed and an open position in which said bore is relatively open, said closure element being biased (at 24) to one of said closed and open positions; a flow tube (22) slidably mounted in said bore, said flow tube being actuable between a first position in which said flow tube does not interfere with the normal bias of said closure element and a second position in which said flow tube opposes the normal bias of said closure element so as to maintain said closure element in the other of said closed and open positions. Going does not have an electrical powered drive mechanism. Rawson teaches an electrically powered drive mechanism (36) to advance a flow tube in a valve are well known in the art (col. 1, lines 58-68). As one of ordinary skill in the art would be familiar with an electrically powered drive mechanism to advance a flow tube in a valve, it would be obvious to modify Going to have an electrically powered drive mechanism as taught by Rawson.

6. Claims 3 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dietz 'et al. '388.

Referring to claims 3 and 11, Dietz disclose the drive mechanism includes one way drive clutches (91) and allowing non functioning drive mechanisms to be mechanically decoupled (col. 7, lines 40-44). Dietz does not disclose a plurality of drive mechanisms. However, duplicating the components of a prior art device is a design consideration within the skill of the art. In re Harza, 274 F.2d 669, 124 USPQ 378 (CCPA 1960). Therefore it would be obvious to one of ordinary skill in the art at the time of the invention to modify the valve disclosed by Dietz to

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have a plurality of drive mechanisms because duplicating the components of a prior art device is a design consideration within the skill of the art.

7. Claims 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Going '177 in view of Rawson et al. '843 as applied to claim 1 above, and further in view of Giebler '228.

Going, as modified, does not teach a gear drive, rotating sleeve with an helical groove or a follower pin. Going teaches any suitable tool can be used for mechanical moving the flow tube (col. 3, lines 16-19.) Giebler teaches (fig. 9-10) a tool for moving a flow tube having a rotating sleeve (18) attached to a gear drive (at 19) mounted in a body, the rotating sleeve including a helical groove (20), and a follower pin (27) mounted on a flow tube (25) and received in the helical groove. As it would be advantageous to have a mechanism to move the flow tube to open the closure member, it would be obvious to further modify the valve disclosed by Going to have the rotating sleeve with an helical groove or a follower pin as taught by Giebler.

Referring to claim 5, Giebler teaches a groove that includes a straight portion (at 21) parallel to the longitudinal axis of the well.

Referring to claim 6, Giebler teaches a groove that includes a transverse portion (between elements 22 and 23) perpendicular to the longitudinal axis of the well.

Referring to claim 7, Going discloses means for preventing longitudinal rotation of the flow tube (col. 3, lines 54-62).

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8. Claims 10,12-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Going '177 in view of Rawson et al. '843 and Giebler '228.

Going discloses a valve comprising: a body (10) having a bore therethrough; a closure element (18) mounted in the bore and actuatable between a closed position in which said bore is relatively obstructed and an open position in which said bore is relatively open, said closure element being biased (at 24) to one of said closed and open positions; a flow tube (22) slidably mounted in said bore, said flow tube being actuatable between a first position in which said flow tube does not interfere with the normal bias of said closure element and a second position in which said flow tube opposes the normal bias of said closure element so as to maintain said closure element in the other of said closed and open positions. Going does not a electrical powered drive mechanism. Going, as modified, does not teach a gear drive, rotating sleeve with an helical groove or a follower pin. Going teaches any suitable tool cane be used for mechanical moving the flow tube (col. 3, lines 16-19.) Rawson teaches an electrically powered drive mechanism (36) to advance a flow tube in a valve are well known in the art (col. 1, lines 58-68). Giebler teaches (fig. 9-10) a tool for moving a flow tube having a rotating sleeve (18) attached to a gear drive (at 19) mounted in a body, the rotating sleeve including a helical groove (20), and a follower pin (27) mounted on a flow tube (25) and received in the helical groove. As it would be advantageous to have a mechanism to move the flow tube to open the closure member and electrically powered drive mechanism (36) to advance a flow tube in a valve are well known in the art, it would be obvious to further modify the valve disclosed by Going to have the rotating sleeve with an helical groove or a follower pin as taught by Giebler and an electrically powered drive mechanism as taught by Rawson.

Referring to claim 12, Giebler teaches a groove that includes a straight portion (at 21) parallel to the longitudinal axis of the well.

Referring to claim 13, Giebler teaches a groove that includes a transverse portion (between elements 22 and 23) perpendicular to the longitudinal axis of the well.

Referring to claim 14, Going discloses means for preventing longitudinal rotation of the flow tube (col. 3, lines 54-62).

Referring to claim 15, Going discloses an electrically actuable retaining mechanism mounted in said body and actuable between an engaged position in which said retaining mechanism engages said flow tube and prevents axial movement of said flow tube relative to said body and a disengaged position in which said retaining mechanism allows axial movement of said flow tube relative to said body (col. 3, lines 54-62).

Referring to claim 16, Going discloses a biasing means (26) for urging said flow tube into said first position.

9. Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Going '177 in view Giebler '228.

Going does not teach a gear drive, rotating sleeve with an helical groove or a follower pin. Going teaches any suitable tool can be used for mechanical moving the flow tube (col. 3, lines 16-19.) Giebler teaches (fig. 9-10) a tool for moving a flow tube having a rotating sleeve (18) attached to a gear drive (at 19) mounted in a body, the rotating sleeve including a helical groove (20), and a follower pin (27) mounted on a flow tube (25) and received in the helical groove. As it would be advantageous to have a mechanism to move the flow tube to open the

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closure member, it would be obvious to further modify the valve disclosed by Going to have the rotating sleeve with an helical groove or a follower pin as taught by Giebler.

Referring to claims 19-20, Going discloses an electrically actuable releasable locking mechanism (col. 3, lines 54-62) that when the release the biasing of the closure element cause the flow tube to move to the first position. and Giebler teaches a longitudinal straight portion (at 23).

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent 4,981,173 to Perkins discloses an electrically actuated safety valve with a biased closure element.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Giovanna M. Collins whose telephone number is 703-306-5707.


The examiner can normally be reached on 6:30-3 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David J. Bagnell can be reached on 703-308-2151. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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